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Attorney Ref. No. 012.P2012

Patent Application No. 09/750,592

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Dharia et al.

Application No.: 09/750,592

Filed: December 28, 2000

Confirmation No. 6761

For: SYSTEM FOR FAST
MACRODIVERSITY SWITCHING IN
MOBILE WIRELESS NETWORKS

Examiner: Sharad K. Rampuria

Art Unit: 2617

Attorney Ref. No.: 012.P2012

CERTIFICATE OF TRANSMISSION

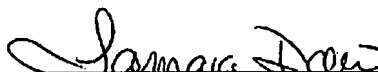
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APPEAL BRIEF

Dear Sir:

This Appeal Brief is submitted in connection with the Notice of Appeal filed March 27, 2007 regarding the above-identified patent application.

REAL PARTY IN INTEREST

This real party in interest is Northstar Acquisitions, LLC, of Los Altos, California.

RELATED APPEALS AND INTERFERENCES

There are no other prior and pending appeals, interferences or judicial proceedings.

STATUS OF CLAIMS

Claims 1-94 were submitted. Claims 1-4, 6-15, 25-28, 30-33, 37-39, 42, 43, 45, 49-53, and 56-94 remain pending and are under appeal. Claims 5, 16-24, 29, 34-36, 40, 41, 44, 46-48, 54, and 55 have been canceled. No claims have been allowed.

STATUS OF AMENDMENTS

No amendments were filed subsequent to the final rejection.

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SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed towards a communication system for communication using wireless signals including down-link signals to and up-link signals from mobile stations. For example, see Figs. 1-5, paragraphs [0032] - [0055], pages 6-12. The communication system (101) includes a plurality of transceiver stations (12) having broadcast channels and dedicated channels carried by the wireless signals. A measurement means (e.g., see structure of Fig. 6 and processing of Figs. 7-10) is provided to form measurements of the wireless signals along with a zone manager means (13). The zone manager means (e.g., see Fig. 6) includes processor means to process the measurements to determine preferred transceiver station(s) to provide dedicated (switched) channels for a particular mobile station (4), and control means to dynamically select such transceiver station(s) that then provide the dedicated channels separately from one of the transceiver stations (e.g., a host transceiver station) that provides broadcast (non-switched) channels for the mobile station. For example, see also Figs. 6-10, paragraphs [0058]–[0085], pages 13-22.

Claim 50 is directed towards a method for communicating using wireless signals including down-link signals to and up-link signals from mobile stations. The method includes transmitting, from a plurality of transceiver stations, broadcast channels and dedicated channels over the wireless signals. The method includes forming measurements of the wireless signals with measurement means and processing the measurements with processor means to determine transceiver station(s) to provide dedicated channels for a particular mobile station. The method includes dynamically selecting, with control means, such transceiver station(s) that then provide the dedicated channels separately from one transceiver station that provides broadcast channels for the mobile station. For example, see Figs. 1-5, paragraphs [0032] - [0055], pages 6-12; Figs. 6-10, paragraphs [0058] –[0085], pages 13-22; and, Figs. 11-12, paragraphs [0086] –[0087], pages 22-23.

Claim 57 is directed towards a communication system that includes a plurality of transceiver stations that communicate with the mobile devices. The transceiver station having best radio access to a mobile device is designated as a host transceiver station for the mobile device and provides the broadcast channels for communication with the mobile device. The system also includes a plurality of processors associated with the plurality of transceivers to manage communications. The processor associated with the host transceiver

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station is designated the host zone manager for the mobile device. The host processor dynamically selects one or more of the plurality of transceiver stations to provide the dedicated channels for communications with the mobile device based on signal measurements. The host transceiver is not affected by the dynamic selection in that it continues to provide the broadcast channels. For example, see Figs. 1-5, paragraphs [0032] - [0055], pages 6-12; Figs. 6-10, paragraphs [0058] - [0085], pages 13-22; and, Figs. 11-12, paragraphs [0086] - [0087], pages 22-23.

Claim 65 is directed towards a processor for use in a communication system for providing wireless communications with mobile stations. The processor (13) includes a transceiver interface (24) that receives signals from an associated transceiver and provides instructions to the associated transceiver. A controller interface (22) communicates with a controller, which assigns a host transceiver and host processor for a particular mobile device. The host transceiver and host processor communicate with the particular mobile device via broadcast channels. A processor interface (23) communicates with the host processor and a plurality of other processors, wherein the communications related to the particular mobile device include receipt of measurement signals related to the mobile station and instructions to/from the various processors. A signal processor (20) processes the measurement signals and a selector (21) dynamically selects, based on the processed measurement signals, at least one assistant processor and associated assistant transceiver to provide communications with the particular mobile device via dedicated channels. For example, see Figs. 1-6, paragraphs [0032] - [0070], pages 6-17; references numbers above refer to Fig. 6).

Claim 74 is directed towards a wireless communication system. The system includes a plurality of transceivers having broadcast channels and dedicated channels carried by wireless signals, wherein transceiver(s) provide dedicated channels for a particular mobile station separately from one of the transceivers that provides broadcast channels for the mobile station. For example, see Figs. 1-5, paragraphs [0032] - [0055], pages 6-12; see also Figs. 11-12, paragraphs [0086] - [0087], pages 22-23.

Claim 85 is directed towards a method of operating a wireless communication system. The method includes determining which transceiver(s) provide dedicated channels for a particular mobile station separately from one transceiver that provides broadcast

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channels for the mobile station. For example, see Figs. 4-7, paragraphs [0048] - [0072], pages 10-17.

Claim 92 is directed towards an apparatus for use in a wireless communication system. The apparatus includes a processor adapted to determine which transceiver(s) provide dedicated channels for a particular mobile station separately from one transceiver that provides broadcast channels for the mobile station. For example, see Figs. 4-7, paragraphs [0048] - [0072], pages 10-17.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 8-15, 25-27, 30-33, 37-38, 42, 43, 45, 49-52, and 57-94 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin et al.* (US 6,212,387 hereinafter, *McLaughlin*) in view of *Howard et al.* (US 5,715,516 hereinafter, *Howard*).

Claims 6-7, 53 and 56 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Chavez et al.* (US 6,070,071 hereinafter, *Chavez*).

Claims 12, 28 and 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Kao* (US 6,175,737 hereinafter, *Kao*).

Claim 45 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Ueno et al.* (US 5,661,723 hereinafter, *Ueno*).

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ARGUMENT

1. BY NOT CONSIDERING THE CLAIMED SUBJECT MATTER AS A WHOLE AND/OR MISCONSTRUING THE CITED DOCUMENTS WHICH DO NOT DISCLOSE OR SUGGEST ALL OF THE CLAIM LIMITATIONS, THE EXAMINER HAS FAILED TO PRESENT A PRIMA FACIE CASE OF OBVIOUSNESS

35 U.S.C. §103(a) states that:

“A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains ...”

As recently upheld by the Court in KSR Int'l Co. v. Teleflex Inc., 550 U.S. ____ (2007), citing Graham v. John Deere Co. of Kansas City, 383 U. S. 1, at 15-17 (1966):

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. ...”

In the Final Office Action the Examiner rejected all of the pending claims based on at least the combined teachings of *McLaughlin* in view of *Howard*. As presented below, by not considering the claimed subject matter as a whole and misconstruing at least *McLaughlin* and *Howard* which do not disclose or suggest all of the claim limitations, the examiner has failed to present a prima facie case of obviousness.

Note regarding terminology used herein:

- Base transceiver station (BTS) – while both *McLaughlin* and *Howard* refer to the base transceiver station as a “zone manager”, in this document as within the original application the term “base transceiver station” (BTS) is used.
- Down-link communications (e.g., signals, channels) – *McLaughlin* and *Howard* refer to communication from a base transceiver station to a mobile

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station as being "forward" communications, in this document as within the original application the term "down-link" is used instead.

- Up-link communications (e.g., signals, channels) – *McLaughlin* and *Howard* refer to communications from a mobile station to a base transceiver station as being "reverse" communications, in this document as within the original application the term "up-link" is used instead.

In determining the scope and content of the cited documents, one quickly recognizes that both *McLaughlin* and *Howard* appear to show base transceiver stations. When properly assigned to do so, one base transceiver station transmits down-link signals and receives up-link signals from one or more mobile stations. To provide such communications, the base transceiver station includes three basic subcomponents, namely, a broadcaster transmitter, one or more collector receivers, and an aggregator device. With its broadcaster transmitter, a *McLaughlin/Howard* base transceiver station transmits down-link signals to one or more mobile stations. The one or more collector receivers are configured to receive up-link signals transmitted by the mobile stations. The received signals from the collector receiver(s) are provided to the aggregator device, which is configured to output a resultant up-link signal to other system resources.

McLaughlin appears to show that measurements or other characteristics of the up-link signals as received by each of the collector receivers can be forwarded along with confidence vectors and timestamp information to the aggregator device to allow it to better generate the resultant up-link signal that is subsequently provided to other resources. (Col. 10, line 63 – Col. 11, line 15). *Howard* appears to show that such measurements may also be used to determine the location of a mobile station within a coverage zone. As such, based on the location of the mobile station, broadcaster transmitter and collector receivers within the zone, a base transceiver station can determine optimal transmission power requirements for the up-link signals and the down-link signals, and provide for more efficient channel/frequency reuse by deciding which particular ones of the collector receivers that are part of the base transceiver station should actually forward their received up-link signals to the aggregator device (e.g., see Col. 16, lines 19-29, Table 1, and Col. 19, line 64 – Col. 20, line 2).

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McLaughlin similarly appears to show that within a base transceiver station collector receivers may be selectively activated. (Col. 8, lines 3-10).

Turning next to differences between the cited documents and the claims at issue, it is important to recognize that in the passages cited by the Examiner, both *McLaughlin* and *Howard* appears to show techniques for use within a single base transceiver station wherein all of the up-link and down-link signals are provided by the single base transceiver station until it "hands-off" the mobile station to another single base transceiver station which then provides all of the up-link and down-link signals.

To the contrary, the claims on appeal recite systems, methods and apparatuses that are associated with novel techniques for use with a plurality of transceivers (e.g., base transceiver stations), wherein for example a host transceiver provides the broadcast channels (down-link and up-link non-switched signals) for a given mobile station while one or more other assistant transceivers (e.g., assistant base transceiver stations) provide the dedicated channels (up-link and/or down-link switched signals) for the mobile station. This allows for fast dynamic switching of the dedicated channels between various transceivers while the host transceiver continues to provide the broadcast channels.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

As shown below, the Examiner does not appear to consider all of the words in the claims, such as, the words "dedicated", "broadcast" and "transceiver", which are important to claimed subject matter as a whole.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

By not considering all of the words and therefore not understanding the claimed subject matter as a whole, the Examiner has failed to reasonably articulate a prima facie case of obviousness.

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To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

By not considering the claimed subject matter as a whole the Examiner continues to rely on references that simply do not teach or suggest all of the claim limitations.

As described in more detail below, neither *McLaughlin* nor *Howard*, alone or in combination, disclose or reasonably suggest such novel systems, methods and apparatuses. Additionally, the combination of *McLaughlin* and *Howard* with *Chavez*, *Kao*, and/or *Ueno*, also fails to disclose or reasonably suggest such novel systems, methods and apparatuses.

A. WITH REGARD TO INDEPENDENT CLAIM 1 (AND DEPENDENT CLAIMS 2-4, 6-15, 25-28, 30-33, 37-39, 42, 43, 45 and 49), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 1 is drawn to a communication system for:

“communication using wireless signals including down-link signals to and up-link signals from mobile stations”

and includes

“a plurality of transceiver stations having broadcast channels and dedicated channels carried by said wireless signals”.

In accord with Claim 1, each “transceiver station” is capable of transmitting down-link signals to and receiving up-link signals from mobile stations using the wireless signals carried by broadcast channels and dedicated channels. Here (as in other claims), the Examiner needs to consider all of the words and the claimed subject matter as a whole and in particular the terms “transceiver station”, “broadcast channels” and “dedicated channels”.

The Final Office Action points to the Abstract of *McLaughlin* as teaching these limitations. What *McLaughlin* does appear to show are “zone managers” that are essentially base transceiver stations as described above. *McLaughlin* appears to show that these base transceiver stations are capable of transmitting down-link channels and receiving up-link channels, but does not recognize and therefore does not differentiate between broadcast (non-

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switched) channels and dedicated (switched) channels. In fact, it seems clear that all down-link signals and up-link signals are broadcast (non-switched) signals between the mobile station and one base transceiver station (see, e.g., *McLaughlin*, Col. 9, lines 31-34, Col. 10, lines 20-21, 46-48) (also, see *Howard*, Col. 7, lines 25-28). Clearly, the Examiner has failed to consider all of the words and the claimed subject matter as a whole.

Before describing the additional limitations as recited in Claim 1, it is important to note that a broadcaster transmitter as taught by *McLaughlin* (and *Howard*) that only transmits down-link signals and a collector receiver as taught by *McLaughlin* (and *Howard*) that only receives up-link signals are not in and of themselves "transceiver stations" per Claim 1. Instead they are each just a part of one transceiver station.

Claim 1 further recites:

"measurement means to form measurements of said wireless signals, and a zone manager means including,

processor means to process said measurements to determine preferred ones of said transceiver stations for particular dedicated channels for a particular mobile station, and

control means to dynamically select said preferred ones of said transceiver stations to provide said particular dedicated channels for said particular mobile station separately from one of said transceiver stations providing particular broadcast channels for said particular mobile station".

Here, for example, the zone manager means through its processor means and control means can, for a particular mobile station, dynamically select other transceiver stations to provide dedicated channels (up-link and/or down-link) to the mobile station, while one of the transceiver stations continues to provide broadcast channels to the mobile station. In the Final Office Action, the Examiner correctly admits that *McLaughlin* fails to disclose the recited zone manager means and/or function.

Instead, the Final Office Action refers to *Howard* as teaching the recited zone manager means and function. In the cited section (Col. 13, lines 1-64) *Howard* appears to show (as does *McLaughlin*) that within a given base transceiver station it may be more efficient for only a subset of the collector receivers to actually forward the up-link signals that they receive from a mobile station to the aggregator device. Note that *Howard* does not

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prevent a non-selected collector receiver from still receiving an up-link signal from the mobile station. Instead, if the collector receiver is not currently selected it simply does not forward its received signal to the aggregator device. This appears similar to receivers that employ multiple antennas or antenna elements but only consider the received signals from those antennas/elements when a threshold signal level is reached.

What *Howard* does not appear to show or otherwise suggest is a zone manager means that causes other transceiver stations to provide dedicated channels (up-link and/or down-link) while one transceiver station continues to provide broadcast channels (up-link and down-link).

McLaughlin and *Howard*, alone or in combination, fail to recognize, disclose or suggest differentiating between broadcast and dedicated channels for both down-link and up-link signals and having a zone manager means that processes measurements for the wireless signals from a plurality of transceiver stations to determine and select preferred ones to provide one or more dedicated channels (up-link and/or down-link) separately from the one transceiver station that provides the broadcast channels (up-link and down-link) for a particular mobile station.

Therefore, with regard to Claim 1, and Claims 2-4, 8-15, 25-28, 30-33, 37-38, 42, 43, 45, and 49 which depend directly or indirectly there from, considering all of the words and the claimed subject matter as a whole and given that the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

Claims 6-7, which depend indirectly and directly, respectively, from Claim 1 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Chavez*. The arguments presented above with regard to Claim 1, also therefore apply to Claims 6 and 7. The Examiner added *Chavez* in an attempt to show that the additional switching timing limitations recited in these claims would have been obvious. However, as with *McLaughlin* and *Howard*, *Chavez* fails to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels for both down-link and up-link signals and having a zone manager means that processes measurements for the wireless signals from a plurality of transceiver stations to determine and select preferred ones to

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provide one or more dedicated channels (up-link and/or down-link) separately from one that provides the broadcast channels (up-link and down-link) for a particular mobile station. The Examiner has not considered the claimed subject matter as a whole and all of the words of the claims; consequently, the Examiner has not presented a prima facie case of obviousness.

Claims 12, 28 and 39 which depend indirectly from Claim 1 stand further rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Kao*. The arguments presented above with regard to Claim 1, also therefore apply to Claims 12, 28 and 39. As with *McLaughlin* and *Howard*, *Kao* fails to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels for both down-link and up-link signals and having a zone manager means that processes measurements for the wireless signals from a plurality of transceiver stations to determine and select preferred ones to provide one or more dedicated channels (up-link and/or down-link) separately from one that provides the broadcast channels (up-link and down-link) for a particular mobile station.

Claim 45 which depends indirectly from Claim 1 stands further rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Ueno*. The arguments presented above with regard to Claim 1, also therefore apply to Claim 45. As with *McLaughlin* and *Howard*, *Ueno* fails to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels for both down-link and up-link signals and having a zone manager means that processes measurements for the wireless signals from a plurality of transceiver stations to determine and select preferred ones to provide one or more dedicated channels (up-link and/or down-link) separately from one that provides the broadcast channels (up-link and down-link) for a particular mobile station.

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B. WITH REGARD TO INDEPENDENT CLAIM 50 (AND DEPENDENT CLAIMS 51-53 and 56), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 50 is drawn to a method for:

“communicating using wireless signals including down-link signals to and up-link signals from mobile stations, the method comprising,

transmitting, from a plurality of transceiver stations, broadcast channels and dedicated channels over said wireless signals”

In accord with Claim 50, each “transceiver station” is capable of transmitting down-link signals to and receiving up-link signals from mobile stations using the wireless signals carried by broadcast channels and dedicated channels.

Claim 50 further recites:

“forming measurements of said wireless signals with measurement means,

processing, with processor means, said measurements to determine preferred ones of said transceiver stations for particular dedicated channels for a particular mobile station, and

dynamically selecting, with control means, said preferred ones of said transceiver stations to provide said particular dedicated channels for said particular mobile station separately from one of said transceiver stations providing particular broadcast channels for said particular mobile station.”

In line with the arguments presented in subsection A above, with regard to the system of Claim 1, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels for both down-link and up-link signals and the method of having processor means and control means that determine preferred ones of the transceiver stations for particular dedicated channels (up-link and/or down-link) for a particular mobile station, and dynamically select the preferred ones of said transceiver stations to provide the particular dedicated channels for the particular mobile station separately from one of the transceiver stations providing particular broadcast channels (up-link and down-link) for the particular mobile station. Therefore, with regard to Claim 50, and Claims 51 and 52 which depend directly there from, considering all of the words and the claimed subject matter as a whole, the differences between the cited documents and the

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claimed subject matter are clearly substantial; as such, the Examiner has failed to articulate a prima facie case of obviousness.

Claims 53 and 56, which depend indirectly and directly, respectively, from Claim 50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *McLaughlin* in view of *Howard*, in further view of *Chavez*. The arguments presented above with regard to Claim 50, also therefore apply to Claims 53 and 56. As with *McLaughlin* and *Howard*, *Chavez* fails recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels for both down-link and up-link signals and the method of having processor means and control means that determine preferred ones of the transceiver stations for particular dedicated channels for a particular mobile station, and dynamically select the preferred ones of the transceiver stations to provide the particular dedicated channels for the particular mobile station separately from one of the transceiver stations providing particular broadcast channels for the particular mobile station.

C. WITH REGARD TO INDEPENDENT CLAIM 57 (AND DEPENDENT CLAIMS 58-64), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 57 is drawn to a communication system for providing wireless communications with mobile devices, the system includes:

“a plurality of transceiver stations to communicate with mobile devices, wherein the plurality of transceiver stations communicate via broadcast channels and dedicated channels, wherein one of the plurality of transceiver stations having best radio access to a first mobile device will be designated a host transceiver station for the first mobile device, and wherein the host transceiver will provide the broadcast channels for communication with the first mobile device; and

a plurality of processors associated with said plurality of transceivers to manage communications, wherein one of the plurality of processors associated with the host transceiver station will be a host zone manager for the first mobile device, wherein the host processor is capable of dynamically selecting one or more of the plurality of transceiver stations to provide the dedicated channels for communications with the first mobile device based on signal measurements, wherein the dynamic selection does not affect the host transceiver providing the broadcast channels.”

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In accord with Claim 57, each "transceiver station" is capable of communicating via broadcast channels and dedicated channels. One of the plurality of transceiver stations is designated the host transceiver station and as such provides the broadcast channels for communication with a mobile device and the associated host processor is capable of dynamically selecting one or more of the plurality of transceiver stations to provide the dedicated channels for communications with the mobile device based on signal measurements.

As shown above in subsection A, with regard to Claim 1, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels and/or having a host processor dynamically select one or more other transceiver stations to provide dedicated channels to a mobile station whilst the host transceiver station provides the broadcast channels to the mobile station. Therefore, with regard to Claim 57, and Claims 58-64 which depend directly or indirectly there from, considering all of the words and the claimed subject matter as a whole, along with the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

D. WITH REGARD TO INDEPENDENT CLAIM 65 (AND DEPENDENT CLAIMS 66-73), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 65 is drawn to a processor for use in a communication system for providing wireless communications with mobile stations.

The claimed processor includes:

"a transceiver interface to receive signals from an associated transceiver and to provide instructions to the associated transceiver, wherein the signals received from the associated transceiver include uplink signals from mobile devices;

a controller interface to communicate with a controller, wherein the communications with the controller include assignment of a host transceiver and host processor for a particular mobile device, wherein the host transceiver and host processor communicates with the particular mobile device via broadcast channels;

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a processor interface to communicate with a plurality of other processors, wherein the communications related to the particular mobile device include receipt of measurement signals related to the particular mobile station and transmission of instructions if said processor is the host processor, and includes receipt of instructions from a host processor and transmission of measurement signals associated with the particular mobile station to the host processor if said processor is not the host processor;

a signal processor, active for the particular mobile device when said processor is the host processor, to process the measurement signals received from at least some subset of the plurality of other processors and the measurement signal from said processor; and

a selector to dynamically select an assistant processor and associated assistant transceiver to provide communications with the particular mobile device via dedicated channels based on the processed measurement signals."

In accord with Claim 65, the communications with the controller include assignment of a host transceiver and host processor for a particular mobile device and the host transceiver and host processor communicates with the particular mobile device via broadcast channels. The selector dynamically selects an assistant processor and associated assistant transceiver to provide communications with the particular mobile device via dedicated channels.

In line with the arguments in the preceding subsections, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels and/or assigning a host transceiver and host processor for a particular mobile device that communicates with the particular mobile device via broadcast channels and also dynamically selecting an assistant processor and associated assistant transceiver to provide communications with the mobile device via dedicated channels.

Therefore, with regard to Claim 65, and Claims 66-73 which depend directly or indirectly there from, considering all of the words and the claimed subject matter as a whole, along with the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

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E. WITH REGARD TO INDEPENDENT CLAIM 74 (AND DEPENDENT CLAIMS 75-84), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 74 is drawn to a:

“communication system capable of using wireless down-link signals to and wireless up-link signals from mobile stations, comprising:
a plurality of transceivers having broadcast channels and dedicated channels carried by said wireless signals;
preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile stations.”

In accord with Claim 74, preferred ones of said transceivers provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile stations.

In line with the arguments in the preceding subsections, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels and/or separating such channels for a particular mobile station between different transceivers.

Therefore, with regard to Claim 74, and Claims 75-84 which depend directly or indirectly there from, considering all of the words and the claimed subject matter as a whole, along with the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

F. WITH REGARD TO INDEPENDENT CLAIM 85 (AND DEPENDENT CLAIMS 86-91), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 85 is drawn to a:

“method of operating a communication system using wireless down-link signals to and wireless up-link signals from mobile stations, comprising:
determining preferred ones of transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile station.”

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In accord with Claim 85, preferred ones of transceivers provide particular dedicated channels for a particular mobile station separately from one of the transceivers to provide particular broadcast channels for the particular mobile station.

In line with the arguments in the preceding subsections, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels and/or separating such channels for a particular mobile station between different transceivers.

Therefore, with regard to Claim 85, and Claims 86-91 which depend directly or indirectly there from, considering all of the words and the claimed subject matter as a whole, along with the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

G. WITH REGARD TO INDEPENDENT CLAIM 92 (AND DEPENDENT CLAIMS 93 and 94), THE CITED DOCUMENTS FAIL TO DISCLOSE OR REASONABLY SUGGEST ALL OF THE RECITED LIMITATIONS

Claim 92 is drawn to an apparatus for use in a communication system using wireless down-link signals to and wireless up-link signals from mobile stations.

The apparatus includes:

“a processor, said processor adapted to determine preferred ones of transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile station.”

Here, the processor determines preferred ones of transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile station

In line with the arguments in the preceding subsections, *McLaughlin* and/or *Howard* fail to recognize, disclose or suggest the idea of differentiating between broadcast and dedicated channels and/or separating such channels for a particular mobile station between different transceivers.

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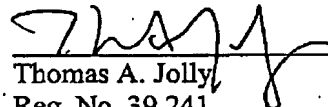
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Therefore, with regard to Claim 92, and Claims 93 and 94 which depend directly and indirectly, respectively, there from, considering all of the words and the claimed subject matter as a whole, along with the substantial differences between the cited documents and the claimed subject matter, the Examiner has clearly failed to articulate a prima facie case of obviousness.

CONCLUSION

For at least the reasons above, Claims 1-4, 6-15, 25-28, 30-33, 37-39, 42, 43, 45, 49-53, and 56-94 are each patentably distinct over the cited documents. It is therefore respectfully requested that the rejections be overturned and letters patent be granted.

Respectfully submitted,

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CLAIMS APPENDIX

Claim 1. (Previously Presented) A communication system for communication using wireless signals including down-link signals to and up-link signals from mobile stations, the system comprising,

a plurality of transceiver stations having broadcast channels and dedicated channels carried by said wireless signals,

measurement means to form measurements of said wireless signals, and zone manager means including,

processor means to process said measurements to determine preferred ones of said transceiver stations for particular dedicated channels for a particular mobile station, and

control means to dynamically select said preferred ones of said transceiver stations to provide said particular dedicated channels for said particular mobile station separately from one of said transceiver stations providing particular broadcast channels for said particular mobile station.

Claim 2. (Original) The communication system of claim 1 wherein said measurement means measures said up-link signals from said particular mobile station to form said measurements.

Claim 3. (Previously Presented) The communication system of claim 2, wherein, said control means is responsive to said processed measurements for changing said dedicated channels as frequently as a signal change time determined by a frequency of said up-link signals.

Claim 4. (Previously Presented) The communication system of claim 3 wherein said signal change time is associated with an up-link signal frame rate of said up-link signals.

Claim 5. (Canceled)

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Claim 6. (Previously Presented) The communication system of claim 3 wherein said signal change time is less than 1 second.

Claim 7. (Previously Presented) The communication system of claim 1, wherein said up-link signals from said particular mobile station are measurement signals occurring at a measurement signal rate of $1/T$ and wherein said processor means operates to,

- generate said measurements at a rate of $1/T$,
- integrate a plurality of said measurements over an integration length to form integrated measurement reports, and
- form said integrated measurement reports using said processed measurements.

Claim 8. (Original) The communication system of claim 1 wherein said zone manager means is formed of a plurality of zone managers, one for each of said transceiver stations.

Claim 9. (Original) The communication system of claim 8 wherein said zone managers are co-located with said transceiver stations at macrodiverse locations.

Claim 10. (Original) The communication system of claim 9 wherein said zone managers are interconnected with each other forming a network.

Claim 11. (Original) The communication system of claim 8 wherein two or more of said zone managers are co-located at a common location.

Claim 12. (Original) The communication system of claim 11 wherein said common location is a base station controller in a cellular system.

Claim 13. (Original) The communication system of claim 8 wherein said plurality of zone managers include a host zone manager and one or more assistant zone managers, said host zone manager operative to communicate over said particular broadcast channels with said particular mobile station while said particular dedicated channels for said particular mobile

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station are dynamically switched among said one or more assistant zone managers and said host zone manager.

Claim 14. (Original) The communication system of claim 13 wherein said measurement means includes a plurality of measurement units, one for each of said zone managers, where each measurement unit measures up-link traffic signals from said particular mobile station to form ones of said measurements as unit measurements.

Claim 15. (Previously Presented) The communication system of claim 13, wherein, said transceiver stations include

a plurality of macro-diverse broadcasters distributed at macro-diverse broadcaster locations to broadcast said down-link signals, and

a plurality of macro-diverse collector means distributed at macro-diverse collector locations to receive said up-link signals,

said measurement means includes a plurality of measurement units, one for each of said zone managers, where each measurement unit measures up-link signals from said particular mobile station to form unit measurements representing the quality of said received up-link signals at one of said macrodiverse collector locations,

said processor means for a said host zone manager receives a plurality of said unit measurements and processes said unit measurements to determine preferred ones of said broadcasters and preferred ones of said collectors for said particular dedicated channels for said particular mobile station, and

said control means for said host zone manager dynamically selects

said particular dedicated channels for said particular mobile station by selecting said preferred ones of said broadcasters to provide particular down-link signals and

said preferred ones of said collectors to receive particular up-link signals for said particular mobile station.

Claims 16 - 24. (Canceled)

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Claim 25. (Previously Presented) The communication system of claim 1, wherein said zone manager means is formed of a plurality of zone managers, one for each of said transceiver stations, each particular one of said zone managers having,

- a resource manager for managing available resources in said communication system,
- an airlink controller for controlling the radio channels in said communication system,

and

- interface means for providing interfaces to said zone managers.

Claim 26. (Previously Presented) The communication system of claim 25 wherein said interface means includes a zone manager interface for controlling links between said zone managers.

Claim 27. (Previously Presented) The communication system of claim 25, wherein said interface means includes a transceiver interface for controlling a link between zone manager and corresponding transceiver station.

Claim 28. (Previously Presented) The communication system of claim 25, wherein said communication system includes a controller link providing an interface between a base station controller and some subset of said transceiver stations and said zone managers.

Claim 29. (Canceled)

Claim 30. (Original) The communication system of claim 25 wherein one or more of said zone managers is integrated into one or more of said transceiver stations.

Claim 31. (Previously Presented) The communication system of claim 1, wherein said control means includes

- broadcaster commands for controlling the down-link signals to each of selected ones of said mobile stations, and

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collector commands for controlling the plurality of macro-diverse collectors for changing the up-link signals for each of other selected ones of said mobile stations.

Claim 32. (Original) The communication system of claim 1 wherein said wireless signals employ multiple access protocols.

Claim 33. (Previously Presented) The communication system of claim 32, wherein said multiple access protocols include at least some subset of TDMA, CDMA, SDMA, and FDMA.

Claims 34-36. (Canceled)

Claim 37. (Original) The communication system of claim 1 wherein said transceiver stations communicate over a region containing one or more zones and said measurement means includes measurements from one or more collectors in said transceiver stations.

Claim 38. (Original) The communication system of claim 37 wherein said measurements from one or more collectors include radio link conditions between a mobile station and said one or more collectors.

Claim 39. (Previously Presented) The communication system of claim 38, wherein said radio link conditions include at least some subset of path loss, forward error rates, and carrier to interference ratio.

Claims 40-41. (Canceled)

Claim 42. (Previously Presented) The communication system of claim 37, wherein said measurements from one or more collectors are processed in the zone manager means related to said one or more transceiver stations.

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Claim 43. (Original) The communication system of claim 1 wherein said zone manager means includes a host zone manager and one or more assistant zone managers and said host zone manager processes said measurements from the one or more assistant zone manager means to provide processed measurements.

Claim 44. (Canceled)

Claim 45. (Previously Presented) The communication system of claim 43, wherein said processed measurements include at least some subset of priority levels for the communication links with mobiles, timing and synchronization information, transmit power level, and locations of mobile stations.

Claim 46-48. (Canceled)

Claim 49. (Original) The communication system of claim 1 wherein said transceiver stations include broadcaster controllers for controlling broadcaster transmitters and said broadcaster controller selects one or more broadcaster transmitters for forward communications with mobile stations based on said processor information.

Claim 50. (Previously Presented) A method for communicating using wireless signals including down-link signals to and up-link signals from mobile stations, the method comprising,

transmitting, from a plurality of transceiver stations, broadcast channels and dedicated channels over said wireless signals,

forming measurements of said wireless signals with measurement means,

processing, with processor means, said measurements to determine preferred ones of said transceiver stations for particular dedicated channels for a particular mobile station, and

dynamically selecting, with control means, said preferred ones of said transceiver stations to provide said particular dedicated channels for said particular mobile station separately from one of said transceiver stations providing particular broadcast channels for said particular mobile station.

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Claim 51. (Previously Presented) The method of claim 50, further comprising measuring said up-link signals from said particular mobile station to form said measurements.

Claim 52. (Previously Presented) The method of claim 50, further comprising changing said dedicated channels as frequently as a signal change time determined by a frequency of said up-link signals.

Claim 53. (Previously Presented) The method of claim 52, wherein said change time is associated with an up-link signal frame rate of said up-link signals.

Claims 54-55. (Canceled)

Claim 56. (Previously Presented) The method of claim 50 wherein said up-link signals from said particular mobile station are measurement signals occurring at a measurement signal rate of $1/T$ and wherein said processing operates, to generate said measurements at a rate of $1/T$, to integrating a plurality of said measurements over an integration length to form integrated measurement reports, to form said integrated measurement reports using said processor information.

Claim 57. (Original) A communication system for providing wireless communications with mobile devices, the system comprising:

a plurality of transceiver stations to communicate with mobile devices, wherein the plurality of transceiver stations communicate via broadcast channels and dedicated channels, wherein one of the plurality of transceiver stations having best radio access to a first mobile device will be designated a host transceiver station for the first mobile device, and wherein the host transceiver will provide the broadcast channels for communication with the first mobile device; and

a plurality of processors associated with said plurality of transceivers to manage communications, wherein one of the plurality of processors associated with the host transceiver station will be a host zone manager for the first mobile device, wherein the host

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processor is capable of dynamically selecting one or more of the plurality of transceiver stations to provide the dedicated channels for communications with the first mobile device based on signal measurements, wherein the dynamic selection does not affect the host transceiver providing the broadcast channels.

Claim 58. (Original) The system of claim 57, wherein the signal measurements are measurements of up-link signals from the first mobile device.

Claim 59. (Original) The system of claim 57, wherein said host processor receives signal measurements from at least some subset of said plurality of processors, wherein the signal measurements are measurements of up-link signals from the first mobile station;
processes the signal measurement received; and
dynamically selects, based on the processed signal measurements, the one or more of said plurality of transceivers and the associated processors to provide the dedicated channels for the first mobile device.

Claim 60. (Original) The system of claim 59, wherein said host processor also instructs the one or more of said plurality of transceivers and the associated processors that they are providing the dedicated channels for the first mobile device.

Claim 61. (Original) The system of claim 57, wherein said plurality of processors are connected together.

Claim 62. (Original) The system of claim 58, wherein said processor may dynamically change the transceiver station providing the dedicated channels as frequently as frequency of the up-link signals.

Claim 63. (Original) The system of claim 57, wherein a first set of transceivers can provide uplink communications and a second set of transceivers can provide downlink communications.

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Claim 64. (Original) The system of claim 57, wherein a first set of transceivers can provide traffic signals and a second set of transceivers can provide control signals.

Claim 65. (Original) A processor for use in a communication system for providing wireless communications with mobile stations, the processor comprising:

a transceiver interface to receive signals from an associated transceiver and to provide instructions to the associated transceiver, wherein the signals received from the associated transceiver include uplink signals from mobile devices;

a controller interface to communicate with a controller, wherein the communications with the controller include assignment of a host transceiver and host processor for a particular mobile device, wherein the host transceiver and host processor communicates with the particular mobile device via broadcast channels;

a processor interface to communicate with a plurality of other processors, wherein the communications related to the particular mobile device include receipt of measurement signals related to the particular mobile station and transmission of instructions if said processor is the host processor, and includes receipt of instructions from a host processor and transmission of measurement signals associated with the particular mobile station to the host processor if said processor is not the host processor;

a signal processor, active for the particular mobile device when said processor is the host processor, to process the measurement signals received from at least some subset of the plurality of other processors and the measurement signal from said processor; and

a selector to dynamically select an assistant processor and associated assistant transceiver to provide communications with the particular mobile device via dedicated channels based on the processed measurement signals.

Claim 66. (Original) The processor of claim 65, wherein the measurement signals are measurements of up-link signals from the particular mobile device.

Claim 67. (Original) The processor of claim 65, wherein said selector may dynamically select as frequently as frequency of the up-link signals.

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Claim 68. (Original) The processor of claim 65, wherein said processor may be the host processor for a first mobile device and an assistant processor for a second mobile device.

Claim 69. (Original) The processor of claim 65, wherein said processor interface for a host processor transmits instructions to an assistant processor to provide the dedicated channels for communication with the particular mobile device when said selector selects the associated assistant transceiver to provide communications with the particular mobile device via the dedicated channels.

Claim 70. (Original) The processor of claim 65, wherein said processor interface for an assistant processor receives instructions from a host processor to provide the dedicated channels for communication with the particular mobile device when the host processor selects the associated assistant transceiver to communicate with the particular mobile device via the dedicated channels.

Claim 71. (Original) The processor of claim 65, further comprising a resource manager for controlling radio frequencies of associated transceiver.

Claim 72. (Original) The processor of claim 65, wherein said host processor can select a first set of transceivers to provide uplink communications and a second set of transceivers to provide downlink communications.

Claim 73. (Original) The processor of claim 65, wherein said host processor can select a first set of transceivers can provide traffic signals and a second set of transceivers can provide control signals.

Claim 74. (Original) A communication system capable of using wireless down-link signals to and wireless up-link signals from mobile stations, comprising:
a plurality of transceivers having broadcast channels and dedicated channels carried by said wireless signals;

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preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile stations.

Claim 75. (Original) The communication system of claim 74, wherein at least some of said transceivers are responsive to a selection of preferred ones of said transceivers to provide said particular dedicated channels for said particular mobile station separately from said one of said transceivers to provide particular broadcast channels for said particular mobile station.

Claim 76. (Original) The communication system of claim 75, wherein at least some of said transceivers are a component of a zone manager.

Claim 77. (Original) The communication system of claim of claim 76, wherein said zone manager is capable of determining said preferred ones of said transceivers.

Claim 78. (Original) The communication system of claim 76, wherein said zone manager is capable of selecting said preferred ones of said transceivers.

Claim 79. (Original) The communication system of claim 78, wherein said zone manager is capable of dynamically selecting said preferred ones of said transceivers.

Claim 80. (Original) The communication system of claim 75, wherein said at least some of said transceivers are further responsive to a dynamic selection of said preferred ones of said transceivers.

Claim 81. (Original) The communication system of claim 75, wherein said at least some of said transceivers are a component of a transceiver station.

Claim 82. (Original) The communication system of claim of claim 81, wherein said transceiver station is capable of determining said preferred ones of said transceivers.

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Claim 83. (Original) The communication system of claim 81, wherein said transceiver station is capable of selecting said preferred ones of said transceivers.

Claim 84. (Original) The communication system of claim 83, wherein said transceiver is capable of dynamically selecting said preferred ones of said transceivers.

Claim 85. (Original) A method of operating a communication system using wireless down-link signals to and wireless up-link signals from mobile stations, comprising:

determining preferred ones of transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile station.

Claim 86. (Original) The method of claim 85, and further comprising:

selecting said preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from said one of said transceivers to provide particular broadcast channels for said particular mobile station.

Claim 87. (Original) The method of claim 86, wherein said communication system includes at least one zone manager.

Claim 88. (Original) The method of claim 87, wherein said determining is performed by said zone manager at least in part.

Claim 89. (Original) The method of claim 88, wherein said selecting is performed by said zone manager at least in part.

Claim 90. (Original) The method of claim 86, wherein said selecting comprises: dynamically selecting said preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from said one of said transceivers to provide particular broadcast channels for said particular mobile station.

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Claim 91. (Original) The method of claim 90, wherein said communication system includes zone managers that perform said dynamic selecting at least in part.

Claim 92. (Original) An apparatus for use in a communication system using wireless down-link signals to and wireless up-link signals from mobile stations comprising:

a processor, said processor adapted to determine preferred ones of transceivers to provide particular dedicated channels for a particular mobile station separately from one of said transceivers to provide particular broadcast channels for said particular mobile station.

Claim 93. (Original) The apparatus of claim 92, wherein said processor is further adapted to select said preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from said one of said transceivers to provide particular broadcast channels for said particular mobile station.

Claim 94. (Original) The apparatus of claim 93, wherein said processor is further adapted to dynamically select said preferred ones of said transceivers to provide particular dedicated channels for a particular mobile station separately from said one of said transceivers to provide particular broadcast channels for said particular mobile station.

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None